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from plus 3 degrees to minus one degree. The long polar night now lies ahead, with heavy frosts, snowstorms, and drifting snow, and no doubt the unfavorable elements of the environment will more heavily influence the organism during this time. During the winter, ultraviolet treatments will be given to all personnel, and many other preventive measures will be worked out, taking into account the fact that the nature of the work will keep the men exposed to the open air for many hours of the day. Particular attention will be paid to the problem of frostbite. The Division of Polar Medicine of Glavsevmorput' is working on these preventive measures in conjunction with one of the scientific-research organizations of the Academy of Medical Sciences USSR, and is organizing instruction in them for the doctors of both drifting stations. It will be necessary also to broaden the objective observations of polar workers, with observations of the cardiovascular system being of primary importance. Studies will be organized on vascular tonicity using two-channel oscillographs, on skin temperature using thermometers, and on vascular reaction using a finger photoplethysmograph. Capillary studies, electrocardiograms, and other research will also be initiated. These studies will be carried out by the doctors of the stations and by members of the Academy of Medical Sciences USSR.

Under the conditions encountered on the ice drift, one of the most important factors is clothing. The members of the stations are supplied with a large quantity of warm clothing of various types designed for different meteorological conditions. They have been issued silk and wool underclothing, hide, fur, and eider-down-lined outer clothing, rubber boots, etc. The blankets in use are filled with eider down, and the sleeping bags are made of wolverine fur. Studies on the effectiveness of this clothing and any improvements which should be made in it should be made by the Institute of Hygiene of the Academy of Medical Sciences USSR.

LOCATION AND ACTIVITIES OF DRIFTING STATIONS -- Moscow, Vodnyy Transport,
4 Sep 54

On 16 August, the drifting station Severnyy Polyus-3 crossed the point where the aircraft USSR N-169 landed in 1941. The expedition of that year was composed of I. Cherevichnyy, pilot; V. Akkuratov, navigator; M. Ostrekin, astronomical magnetologist; and N. Chernigovskiy, hydrologist. They flew to the "pole of relative inaccessibility" [84 00 N, 160 00 W] where no man had ever been able to penetrate before. The drifting station is now making observations in this area.

At the station Severnyy Polyus-4, summer is ending and winter is setting in. Heavy rains which lasted through 21 and 22 August have been followed by a heavy snow storm and powerful gusts of wind. Winter preparations are going ahead at the station. Radio Operators Zavedeyev and Tselishchev are electrifying all inside areas of the camp and other places where instruments have been installed.

A helicopter piloted by Mel'nikov recently flew 100 miles from the camp with Hydrologists Dralkin and Izvekov aboard. Deep-water observations were made at two places and samples of sea water were taken at various depths.

The work of the hydrologists at the stations has increased because the ice is drifting so rapidly that the instrument cables cut into the sides of observation holes. Thus observations must be made only at carefully chosen moments. Dralkin and Izvekov have found valuable new materials, particularly in the Atlantic layer of the sea.

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The workers of Severnyy Polyus-4 maintain radio contact with Severnyy Polyus-3 and are greatly interested in activities at the other station. Severnyy Polyus-3 has crossed the 89th parallel and is now drifting near the pole. On 25 August, the hydrological section of that station found a depth of over 4,000 meters in the area where they were drifting. Astronomical coordinates showed that it was in this spot that Pilot I. Mazuruk and Navigator V. Akkuratov landed their plane in 1937, the first such landing in the history of arctic exploration.

Moscow, Gudok, 24 Aug 54

The drifting ice stations report that the short polar summer is coming to an end. On 23 August, the temperature at Severnyy Polyus-3 was zero degrees, with haze and strong winds. At Severnyy Polyus-4 the temperature was minus one degree, with moderate southerly winds.

Research carried out by the stations has enabled them to conclude that the concept of a cold air cap over the central polar basin, which has long been held valid, is not quite correct, and it has been established that no sort of second magnetic pole exists. It has also been found that the Central Arctic is far from a lifeless waste. In the summer, birds fly across almost the entire Arctic Ocean. In addition to the snow bunting, which was seen at the beginning of the drift, gulls, wild ducks, and other birds have flown over the stations. The members of the stations have also met polar bears, seals, and sea hares. Seaweed and other matter abound in the water.

The drifting stations have been of great help to the operation of the Northern Sea Route. Weather reports are sent to the mainland from the stations eight times a day. These reports are used by shore weather bureaus in making up their forecasts, which are disseminated to all ships operating on the Northern Sea Route.

At present, Severnyy Polyus-4 continues to drift to the north. At the beginning of August, it was located in the area of 77 25 N, 174 17 E. Since then it has drifted about 60 miles in the same direction, and is located over the northern edge of the continental slope.

Moscow, Vodnyy Transport, 24 Aug 54

A dispatch from Treshnikov, chief of Severnyy Polyus-3, indicates that in the past few days the station drifted over the steepest part of the slope of the underwater range imeni Lomonosov. The station has now crossed the 89th parallel and is over the summit of the range.

Moscow, Literaturnaya Gazeta, 29 Jul 54

A group of scientists from the Academy of Sciences USSR, has returned to Moscow from the Arctic, where it spent about 2 weeks visiting both polar drift stations. After studying the research program at the stations, they decided to increase the program in the fields of geology, geomorphology, and hydrobiology.

Moscow, Krasnaya Zvezda, 24 Jul 54

The flagship of the Arctic expedition, the N-440, recently flew a group of official visitors from the mainland to Severnyy Polyus-3. The chief of the

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station, Treshnikov, introduced the visitors to the camp personnel in the community room. Short addresses were made by several of the visiting group, including Burkhanov; Academician Shcherbakov; Frolov, chief of the Arctic Scientific-Research Institute; Fedorov, Associate Member of the Academy of Sciences USSR (a member of the first research station in the polar area); and pilot Kotov.

Moscow, Vodnyy Transport, 24 Aug 54

A plane piloted by polar aviator Stupishin recently arrived in Severnyy Polyus-4 from Bol'shaya Zemlya with fruit and vegetables, parcels, newspapers, periodicals, films, X-ray and dental equipment, letters, and other supplies.

The plane also brought several passengers to the station including Doctor of Geominerology Klenova, the great Soviet specialist on the geology of the ocean, and Kornyskiy, Smolenskiy, and Mulyar, members of the Academy of Medical Sciences USSR.

M. V. Klenova held scientific consultations for the members of the drifting station, and the young hydrologist Izvekov raised samples of the Arctic Ocean bottom, working under Klenova's direction.

When he left the station, Pilot Stupishin took observations and other scientific data with him to be delivered to the Arctic Institute.

Moscow, Literaturnaya Gazeta, 7 Aug 54

The polar drifting stations were recently visited by deputy director of the Arctic Institute M. M. Somov, Doctor of Geographic Sciences and Hero of Socialist Labor, who was in charge of Severnyy Polyus-2 in 1950-1951. On his return to the mainland, he stated in an interview with a correspondent of Literaturnaya Gazeta that it is impossible to attribute discovery of the underwater range imeni Lomonosov to any one scientist. Its existence has been established as the result of many years of observation and a great deal of work by many men. The discovery of the range's contour began in 1948, when one of the hydrological expeditions from the institute found one of the slopes. In subsequent years, expeditions of scientists were able to determine the location of the range, its extent, and its basic structure.

The sole aim of polar research in the Soviet area, M. M. Somov stated in his interview, is to assure safe navigation along the Northern Sea Route.

PERSONNEL OF DRIFTING STATIONS -- Moscow, Krasnaya Zvezda, 24 Jul 54

[The following were identified in the indicated sources as personnel of the drifting stations:]

Severnyy Polyus-3

Vasiliy Gavrilovich Kanaki, chief of the meteorological and aerological section

Nikolay Yevdokimovich Popkov, chief of the geophysical section

Vladimir Aleksandrovich Shamont'yev, chief of the hydrology section

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Moscow, Izvestiya, 31 Aug 54

Severnny Polyus-4

Shchekin, Silin, and Babarykin -- aerologists

Dralkin and Izvekov -- hydrologists

Delarov, magnetologist

Mel'nikov, helicopter pilot

Dem'yanov, chief of the hydrology section

Ovchinikov, meteorologist

AERIAL EXPEDITION CONTINUES OPERATIONS -- Moscow, Ogonek, 15 Aug 54

The aerial expedition which is moving from ice floe to ice floe in the polar area, while studying the range imeni Lomonosov, is headed by Cherevichnyy and includes Magnetologist M. Ye. Ostrekin, Oceanographer A. L. Sokolov, Pilot G. V. Sorokin, Oceanographer Ya. Ya. Gakkel', and Oceanographer Z. M. Gudkovich who accompanied Somov on Severny Polyus-2 in 1950. Gudkovich is now gathering information for his candidate's dissertation at the Higher Arctic Nautical School.

The camp of this mobile group was recently visited by Academician D. I. Shcherbakov, secretary of the Division of Geology and Geography, Academy of Sciences USSR.

ACTIVITIES OF POLAR AVIATION -- Moscow, Pravda, 20 Jul 54

The planes of Polar Aviation are constantly in the air over the Arctic area, mapping ice types, conditions, and movements. These maps are dispatched to icebreakers under way across the Northern Sea Route with convoys of merchant ships, and allow these ships to plot their course according to conditions lying ahead.

In addition to this work, thousands of settlements in the Arctic are visited yearly by AN-2-type aircraft of Polar Aviation which land on the tundra or on prepared strips. In many cases, this is the only contact with the outside world for settlements of six or seven men during the long polar night. The planes bring in newspapers, books, letters, and even fresh fruit and vegetables.

Polar Aviation also takes part in expeditions and in roving scientific observations under the direction of such pilots as Shatrov, Mironenko, Moskalenko, Zhgun, Sorokin, Vasil'yev, and Perov, accompanied by navigators such as Morozov, Zhukov, Zubov, and Padalki. In many cases, these pilots must be more than just skilled fliers -- they must be researchers as well. Ivan Ivanovich Cherevichnyy, for example, in 22 years of flying in the Arctic has plotted many portions of the central polar basin. A good deal of similar work has been done by V. I. Maslennikov.

In a recent scientific expedition, two planes from Glavsevmorput' flew from separate shore points to a destination 700 kilometers from shore, where they met three of the four pilots who had flown to the North Pole in 1937: M. S. Vodop'yanov, A. D. Alekseyev, and I. P. Mazuruk. Because of his age, Vodop'yanov no longer flies his own plane, but he still flies to the Arctic

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as commander-instructor, giving young pilots the benefit of his long experience. Alekseyev is similarly employed, while A. Mazuruk still pilots his own plane.

Matvey Kozlov is still flying in the Arctic, and he too flew to the pole in 1937. In recent years, he has flown some 3 million kilometers over the ice and has made several geographical discoveries.

Moscow, Vodnyy Transport, 21 Aug 54

On a recent morning, a Polar Aviation plane left the airport in Moscow for Tiksi, carrying seven passengers on their way to various points in the polar regions. Aboard were A. Sheremet'yev, director of a hydrographic expedition in one of the most northerly points in the country; Lecturer V. Meshcherin from the Political Administration of the Ministry of Maritime and River Fleet USSR, on his way to polar ports to give a series of social-political lectures; polar Radio Operator V. Filinova, from Taymyr; Radio Operator L. Sergeyev, with his wife and 6-year-old daughter; and Welder G. Sbytov from Igarka.

The plane was piloted by Senior Polar Pilot P. Shpit, and the crew included Copilot M. Doronin, Engineer V. Nikitin, Radio Operator A. Lagutkin, and Navigator M. Kirillov.

As the ship progressed from Moscow to Arkhangel'sk, Dikson, and beyond, new passengers were picked up, including personnel from weather ships and polar stations.

POLAR STATION AT BUKHTA TIKHAYA -- Moscow, Vodnyy Transport, 31 Aug 54

On 30 August 1929, the first radiogram was sent out from the newly established polar station of Bukhta Tikhaya, on Franz Joseph Land.

In 1929, there were only three buildings of any sort at the station, but in 25 years of development an entire large settlement has been built. In the center is the pavilion for scientific research. There are separate buildings for magnetic observations, and the settlement has its own electric power station.

The Bukhta Tikhaya station carries on a wide range of observations on ice conditions in this sector of the Arctic Ocean. The station has also taken an active part in supporting expeditions, notably in the establishment of the first ice drift station, Severnyy Polyus-1, and in the nonstop flight across the Pole from the USSR to North America by Chkalov and Gromov.

The scientific program has been consistently exceeded in recent years by such men as polar experts Yu. Bol'shakov and B. Shvartsman, magnetologists B. Bykov and G. Mikhaylov, and meteorologists N. Bogdanov and Ya. Korpich.

The station has just completed and put into operation another new building. Capital repairs have been completed on another building, and all dwellings have been prepared for winter.

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One of the oldest inhabitants of the station is Dr P. Dement'yev, who takes an active part in all the work at the station. I. Titovskiy is the present chief of the Bukhta Tikhaya station.

In the community building at Bukhta Tikhaya, the Arctic workers may spend their time with newspapers and books or motion pictures. They also take an active interest in sports and make excursions around Ostrov [island] Gukera. There are quite a few bears around the station, two of which were recently sent to the Leningrad Zoological Park by the station workers.

CAPE SHMIDT SETTLEMENT GROWS -- Moscow, Smena, No 12, Jun 54

There is now an entire street of two-story log houses on Cape Shmidt. The Arctic settlement includes a school, a club, a hospital, and a bathhouse.

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